

more, and passed its second spring moult 10th May. On 16th inst. two more waked up and passed their second moult 22nd inst., and then went on through the remaining stages without farther delay and reached chrysalis 1st and 3rd June, and butterfly 13th and 14th, or two months after the first chrysalids of the brood had given butterflies. The first examples of *Nycteis* seen in the fields this year were on 20th May.

Several of this lot of chrysalids I put in the ice box, temp. 33° Far., time of exposure 12 to 18 days. Most were killed by the process, but three gave butterflies. They were not altered in color, and I had no especial reason for supposing they would be, as the species is not seasonally dimorphic, but I thought it probable the colors might be made to run, as in case of *Tharos* chrysalids exposed to similar degree of cold, in 1877.

*Nycteis* here feeds on *Actinomeris squarrosa*, but will eat *Aster*, though it prefers the other plant decidedly. I tied 4 ♀ in a bag upon *Actinomeris*, and as many on *Aster* the same day. The former gave at once three batches of eggs, but the others had laid none in 24 hours. I then transferred these to *Actinomeris*, and before night two of them laid. But I have nevertheless obtained eggs on *Aster* and raised the larvæ exclusively on this plant. The change in the food produced no difference on the larval coloring. In New York this species feeds on wild sunflower. There are three annual broods in this district—the first being in May and June, of which about one-third the larvæ hibernated; the second in mid-summer, of which about two-thirds the larvæ hibernated, and the third in autumn, all the larvæ hibernating.

August 1, 1878.

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## CAPTURES OF NOCTUIDÆ AT CLYDE, WAYNE CO., N. Y.

BY W. L. DEVEREAUX, RESIDENT.

It is hoped the following list of Noctuæ, taken principally at bait, will prove of some interest to readers of the CAN. ENT., although it is not a complete *exposé* of the fauna of this locality, having been compiled from but two years' catches—'75 and '76. During the season of '75 the weather was very favorable for sugaring, as there were always two or three

nights out of a week in which the baits were swarming with moths, from May to October, but baiting was not followed very steadily or thoroughly. Collecting was pursued steadily during '77 from May to August; five or six nights out of each week the baits were regularly attended, but after August 20th sugaring was nearly discontinued. Not a single night happened after this when moths were on the wing or found at bait, caused by the cold and dry weather. Thus the richest part of the season produced but very little during '77. Many species that were quite common in '75 were not seen at all in '76. The average number of baits each night was twenty-five, on trees in an apple orchard and vineyard.

Only the date of the first or earliest observation of each moth's appearance is affixed to each species, as most remain about a month; where they are known to occur longer the length of time is stated.

*Lacinia cymatophoroides*. June 20; not plenty at sugar.

“ *expultrix*. June 14; unfrequent at sugar.

*Acronycta acericola*. June 14; common at sugar.

“ *superans*. June 8; not uncommon at sugar.

“ *noctivaga*. June 10; not plenty at sugar.

“ *brumosa*. June 6; common at sugar.

“ *occidentalis*. June 6; common at sugar.

“ *lobeliae*. June 11; common at sugar.

“ *connecta*. July 15; one taken at sugar.

“ *hamamelis*. June 13; rare at sugar.

“ *vinnula*. June 20; not common at sugar.

*Bryophila corticosa*. June 16; scarce at sugar.

*Microcoelia diphteroides*. June 15; common at light and sugar.

“ *fragilis*. July 29; one taken at sugar.

*Moma fallax*. June 8; rare at sugar.

*Agrotis clandestina*. June 15; very plenty at light and sugar.

“ *amputator*. July 17; common at sugar.

“ *augur*. June 26; common at sugar.

“ *alternata*. August 20; not common at sugar.

“ *subgothica*. July 21; common at sugar.

“ *c-nigrum*. June 16 to September; common at sugar.

“ *bicarnea*. September 1; one taken at sugar.

“ *suffusa*. June 16 to October; common at sugar.

“ *sigmoides*. June 20; common at sugar.

- Agrotis plecta*. July 29; rare at sugar.  
 " *baja*. July 25; rare at sugar.  
 " *herbida*. June 24; scarce at sugar.  
*Mamestra subjuncta*. June 17; not uncommon at sugar.  
 " *legitima*. July 22; rare at sugar.  
 " *herbimaculata*. July 28; rare at sugar.  
 " *atlantica*. July; not uncommon at sugar.  
*Hadena rurea*. June 14; common at sugar.  
 " *vulgaris*. June 10; common at sugar.  
 " *finitima*. June 7; common at sugar.  
 " *lignicolora*. June 17; common at sugar.  
 " *devastator*. June 20; very plenty at sugar.  
 " *arctica*. June 15 to October; common at light and sugar.  
 " *sputator*. June 19; common at sugar.  
 " *lateritea*. July 21; rare at sugar.  
 " *impulsa*. June 15; rare at sugar.  
 " *delicata*. June 17; rare at sugar.  
 " *verbascoïdes*. June 12; not common at sugar.  
 " *modica*. July 13; rare at sugar.  
 " *xylinoides*. June 12; common; second brood in August.  
*Dipterygia pinastri*. June 17; not common at sugar.  
*Perigea luxa*. July 22; scarce at sugar.  
*Callopietria mollissima*. June 10; scarce at sugar.  
*Euplexia lucipara*. June 7; frequent at sugar and at blooms of *Petunias*.  
*Brotolomia iris*. June 21; scarce at rest and sugar.  
*Nephelodes minians*. September 1; scarce at sugar.  
*Helotropha reniformis*. July 24; scarce at sugar.  
*Hydroecia nictitans* (with white spot). July 23; at sugar.  
 " *var. lucens* (without white spot). July 17; common at sugar  
 and in daytime on blooms of Milkweed (*Asclepias cornuti*).  
 " *lorea*. June 12; common at sugar.  
 " *sera*. June 18; plenty at sugar.  
*Leucania pallens*. June 14; not plenty at sugar.  
 " *phragmitidicola*. June 17; not common at sugar.  
 " *pseudargyria*. June 9; uncommon at sugar.  
 " *commoides*. June 28; one taken in grass.  
 " *adonea*. June 30; one specimen at sugar.  
 " *unipuncta*. June 28; plenty at sugar.

- Amphipyra pyramidoides. July 21; common at light and sugar.  
 " tragopoginis. July 18; scarce at sugar.  
 Ceramica picta. Bred from larvæ found on Spearmint in autumn.  
 Tæniocampa incerta. June 10; scarce at sugar.  
 Orthodes infirma. June 24; uncommon at sugar.  
 Orthosia helva. July 31; scarce at sugar.  
 " ferruginoides. August 20; scarce at sugar.  
 Cirrhoedia pampina. August 26; one specimen at sugar.  
 Scoliopteryx libatrix. June 28; scarce at sugar.  
 Lithophane cinerea. September 10 and in warm spells in winter up to  
 April 15, at sugar, plenty.  
 " pexata. September 20; rare at sugar.  
 " Bethunei. October 6; rare at sugar.  
 " signosa. September 24; not common at sugar.  
 " disposita. September 21; rare at sugar.  
 Calocampa curvimaculata. April 30; at rest; hibernated.  
 Cucullia asteroides. May 20; at rest, and in August and September at  
 Petunias.  
 " convexipennis. Same.  
 " Speyeri. May 28; at rest.  
 Telesilla cinereola. July 20.  
 Plusia simplex. June 1; at Lilac blooms in day time, and in Sep. at rest.  
 " precatationis. Same.  
 " contexta. September 1; one specimen at rest.  
 " balluca. August 9; one taken at Petunias.  
 Brachytaenia metana. June 30; uncommon at sugar.  
 Erastria carneola. June 1 to November; very plenty at sugar.  
 " muscosula. June 8; very plenty at sugar.  
 " nigrītula. July 12; scarce at sugar.  
 Drasteria erichtea. May 15 to October; very plenty at rest and sugar.  
 " erichto. June 4 to August; common at sugar.  
 Ophiusa bistriaria. June 13; plenty at sugar.  
 Ingura occulatrix. June 28; one specimen at sugar.  
 Parthenos nubilis. June 14 to August; plenty at sugar.  
 Catocala parta. August 6 to October; common at sugar.  
 " unijuga. July 16; one at sugar.  
 " Briseis. July 12; uncommon at sugar.  
 " ultronia. July 8; common at sugar.

- Catocala amatrix*. July 18 to October; uncommon at sugar.
- “ *ilia*. July 3; scarce at sugar.
- “ *cara*. September 20; scarce at sugar.
- “ *concumbens*. July 31 to October; not common at sugar.
- “ *coccinata*. July 18; one at sugar.
- “ *neogama*. July 19 to October; common at sugar.
- “ *paleogama*. July 27; not common at sugar.
- “ *subnata*. July 20 to October; not plenty at sugar.
- “ *piatrix*. August 8 to October; common at sugar.
- “ *serena*. August 12; one specimen at sugar.
- “ *antinympa*. July 22; one specimen at sugar.
- “ *habilis*. July 30 to October; common at sugar.
- “ *Clintoni*. July 5; scarce at sugar.
- “ *polygama*. June 28; very common at sugar.
- “ *cerogama*. July 21 to October; very plenty at sugar.
- “ *androphila*. July 24; one at sugar.
- “ *epione*. August 3; one specimen at sugar.
- “ *obscura*. August 6 to October; common at sugar.
- “ *desperata*. August 5; very common at sugar.
- Homoptera Saundersii*. June 13 until cold nights in October, at sugar; common; one taken in grass May 20 in very worn condition; hibernated (?)
- “ *edusa*. September 7; one taken at sugar.
- “ *lunata*. September 8; rare at sugar.
- “ *nigricans* (*Ypsia undularis*). May 28 to August; at rest and at sugar.
- Zale horrida*. June 7; not uncommon at sugar.
- Homopyralis tactus*. July 25; scarce at sugar.
- Pseudotnodes vecors*. July 14; one taken at sugar.
- Zanclognathe cruralis*. July 10; scarce at sugar.
- “ *laevigata*. July 3; rare at sugar.
- Platyhyphen scabra*. July 28; unfrequent at sugar, and very plenty in meadows in daytime, in autumn.

A few moths belonging to succeeding families of Heterocera, and some insects from nearly every Order are found on bait at night, and also butterflies belonging to the genera *Vanessa* and *Grapta*, in daytime. The large Tree Toad (*Hyla versicolor*) was observed a few times clinging to trees beside the bait, enjoying a midnight feast, no doubt, as well as the



common Toad (*Bufo Americanus*), which in several instances was seen stationed half concealed in the mulching at the foot of the tree just under the bait.

Coleoptera is next to Lepidoptera in abundance at bait, and I therefore venture to append a list of species seen at sugar.

<i>Calosoma calidum.</i>	<i>Asaphes memnonius.</i>
<i>Dromius piceus.</i>	<i>Cyphon pallipes.</i>
<i>Calathus gregarius.</i>	<i>Photinus ardens.</i>
<i>Platynus molestus.</i>	<i>Podabrus diadema.</i>
<i>Pterostichus Sayi.</i>	<i>Elaphidion parallelum.</i>
<i>Harpalus caliginosus.</i>	<i>Monohamnus confusor.</i>
“ <i>pennsylvanicus.</i>	<i>Saperda tridentata.</i>
“ <i>fallax.</i>	<i>Merinus lævis.</i>
<i>Peltis surinamensis.</i>	<i>Centronopus calcaratus.</i>
<i>Megalodacne fasciata.</i>	<i>Xylopinus saperdioides.</i>
<i>Pityophagus 4-guttatus.</i>	<i>Tenebrio molitor.</i>
<i>Adelocera marmorata.</i>	“ <i>tenebrioides.</i>
<i>Agriotes mancus.</i>	<i>Hymenorus obscurus.</i>
<i>Melanotus communis.</i>	<i>Pyrochroa femoralis.</i>
“ <i>parumpunctatus.</i>	“ <i>flabellata.</i>
<i>Corymbites sulcicollis.</i>	

## OBNOXIOUS PESTS—SUGGESTIONS RELATIVE TO THEIR DESTRUCTION.

BY DR. H. HAGEN, CAMBRIDGE, MASS.

The question how to check the ravages of obnoxious insects is a very important one, and I am very often asked for advice in special cases. While occupied with a close examination of the proposed remedies and looking through a large number of scientific tracts, some of them fell into my hands and induced me to study them again. The present communication is the result of those studies.

Somewhat more than twenty years ago the lower forms of some fungi attracted the attention of many students, and especially of Dr. Bail, of Prussia. The reports of his observations are scattered in different peri-